

SILICATE
ORTHOSILICATE

PRODUCT

INFORMATION

TECHNICAL

DATA

CATALOG

SEARCH

Electronic Materials

Alkyl Silicate

Applications

Packing : [Please contact us](#)

Silicate Orthosilicate

This product is high purity alkyl silicate refined through distillation after metallic silicon is reacted with alcohol. Tetramethyl orthosilicate ($\text{Si}(\text{OCH}_3)_4$), a single substance, can be easily hydrolyzed and condensed in alcohol to produce alcoholic silica sol which has excellent coating and binding properties. "Methyl silicate 51" prepared by condensing tetramethyl orthosilicate to oligomerize it into the average tetramer is a high content of silica (51%) and can be safely handled.

Properties

The representative grades are shown below.

| Grade | Chemical Name | Chemical Formula | Molecular Weight | Molecular Weight | Chemical Name | Chemical Formula |
|----------------------------|-----------------------------|-----------------------|------------------|-----------------------|---|-----------------------|
| - | $\text{Si}(\text{OCH}_3)_4$ | | 162.3 | 470.7 | $\text{CH}_3\text{O}(\text{Si}(\text{OCH}_3)_2\text{O})\text{CH}_3$ | 264.4 |
| Molecular Weight | | | | | | |
| Specific Gravity (25°C) | | | 1.03 | 1.18 | | 0.91 |
| Viscosity (25°C) | mPas | | 8.6 | 8 | | 1.3 |
| Appearance | - | Colorless transparent | | Colorless transparent | | Colorless transparent |
| Color (APHA) | | Below 10 | | Below 20 | | Below 20 |
| Silica content | % | 39 | | 51 | | 22.7 |
| Purity (by GC) | % | 99.5 or more | | (oligomer mixture) | | 99.5 or more |
| Alkaline Metals Impurities | ppm | Below 100 | | Below 100 | | Below 100 |
| Heavy Metals Impurities | ppm | Below 100 | | Below 100 | | Below 100 |

Applications

- Various high-purity synthetic silica
- Various high-purity synthetic silica
- Binders
- Cross-linking agents
- Dehydrating agents, etc.



Health and Safety Information

The Fire Services Act: the 4th class, the 2nd petroleum type products (water-soluble) Tetramethyl orthosilicate vapor, when exposed to cornea, gradually causes corrosion, which in turn leads to severe pain. Wear goggles-type protective glasses and handle tetramethyl orthosilicate in a well-ventilated place.